

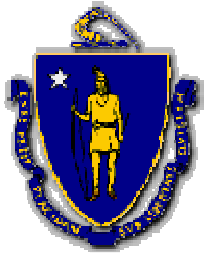
State Energy Efficiency Policy

Energy Efficiency Planning

December 11, 2007

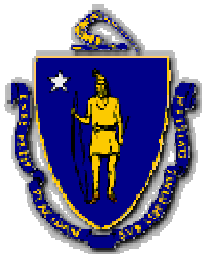
Mike Sherman

Massachusetts Division of Energy Resources



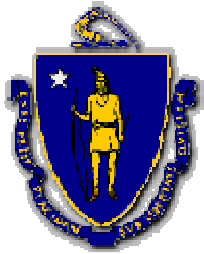
What is DOER?

- DOER is Massachusetts' state energy office
 - Energy policy
 - Energy markets and supply
 - Renewable energy
 - Energy efficiency
 - ☒ Oversee \$150 million annually in residential and business electric and gas programs operated across the state by investor-owned utilities.
 - ☒ Administer appliance efficiency standards,



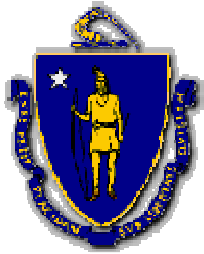
We do a good job here

- The American Council for an Energy Efficient Economy rates Massachusetts as the 4th most energy-efficient state, just after VT, CT, CA (tied for 1st) .
- Without the energy efficiency programs, annual electricity usage would increase by about 2%. With them, growth is 1.25%. Our goal is meeting all demand while decreasing total annual electricity needed in the state.



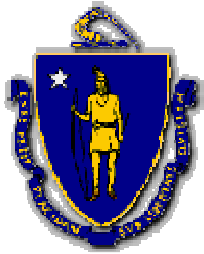
Planning is good, Action is better

- TURA regs now offer energy planning as a compliance path.
- But there are real benefits to your company, to your clients if they move ahead to taking action.



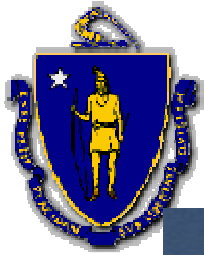
Why Save Energy – do we need to ask?

- Efficiency is the cheapest electricity resource. From 2003-2005 the cost to achieve energy savings **dropped 15% from 3.8 cents to 3.2 cents per kWh.**
- **The cost to produce electricity over the period *increased* by 61% to 8.9 cents per kWh.**
- Each dollar invested in electric efficiency will create an estimated \$2.84 in benefits over the life of the installed measures, the equivalent of a 184% return on investment.



More Reasons

- Electricity prices will continue to increase.
- There's money to be made - Energy and demand savings go straight to the bottom line.
- AND you can get paid to reduce demand!

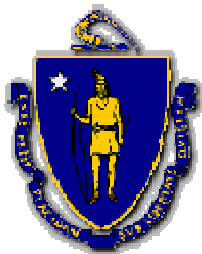


Energy Efficiency **IS** Rocket Science

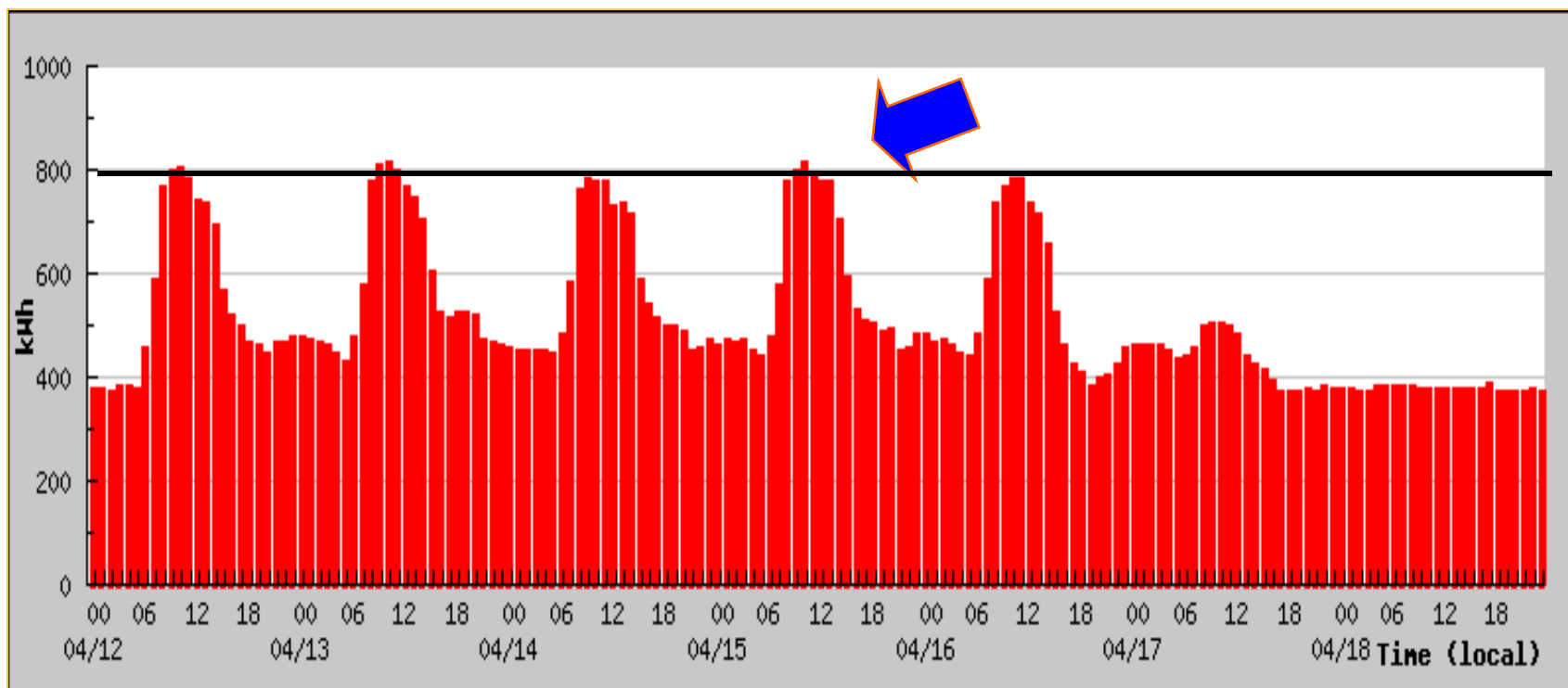


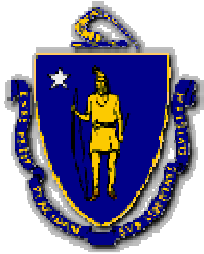
OTA December 12, 2007

Massachusetts Division of Energy Resources



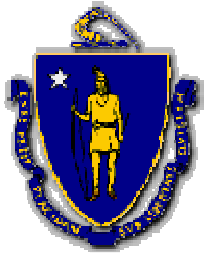
Measure it, Manage it





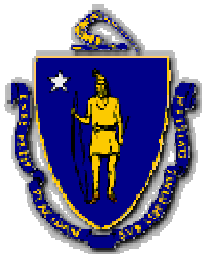
7 Steps to an Energy Action Plan

1. Assign Responsibility
2. Assemble Data (All the data)
3. First cut analysis
4. More complex analysis
5. Short and Long Term Plans
6. Examine Procurement
7. Monitor Monitor Monitor



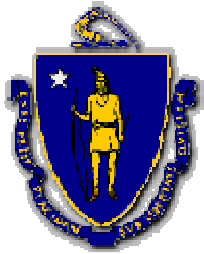
5 things you can do

1. Optimize space temps by time of day and season
2. Install high efficiency lighting
3. Use lighting controls to reduce lighting when spaces are unoccupied
4. Turn off unused office/production equipment when not needed, preferably automatically.
5. Enable computer power management features



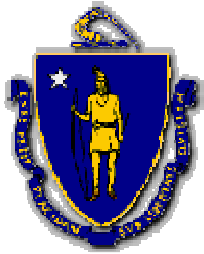
5 more things

1. Weatherize buildings to reduce wall, window, door losses.
2. Regular HVAC maintenance, calibration
3. Verify needed ventilation rates – adjust for occupancy levels, vacancies
4. Reduce leaks in compressed air systems
5. Efficient equipment procurement practices – EnergyStar where available.



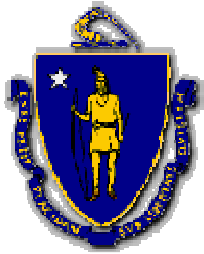
Utility Program Resources

- Investor-owned electric and gas utilities have been providing energy efficiency services to businesses since the 1980's. Programs target:
 - Lost opportunities – new construction, rehab, equipment replacement
 - Retrofit – upgrading existing facilities and equipment, process improvements, facility management



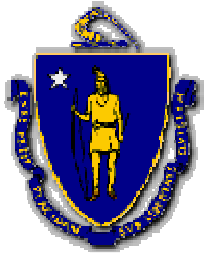
Electric Energy Efficiency

- Cape Light Compact
<http://capelightcompact.org/doc.ccml?15>
- National Grid
www.nationalgridus.com/masselectric/business
- NStar Electric and Gas www.nstar.com/business
- Western Massachusetts Electric
www.wmeco.com/EnergyWise/ForBusiness.aspx
- Fitchburg Gas and Electric
http://services.unitil.com/fge/bus_energy_efficiency_programs.asp



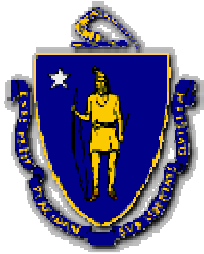
Gas Energy Efficiency

- Keyspan Energy Delivery (National Grid)
http://keyspanenergy.com/psbusiness/solutions/index_ma_ma.jsp
- Nstar Gas www.nstar.com/business
- Bay State Gas
http://www.baystategas.com/business/eneraudit.htm#sm_c&i
- Berkshire Gas
http://www.berkshiregas.com/pdf/2006CI%20programsdescriptions_10-16-2006.pdf



What do the utilities offer?

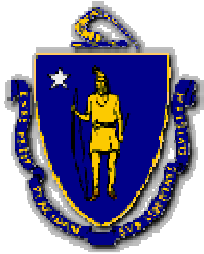
- Advice on approaching needs assessments
- Audits and Engineering Services
- Benchmarking – how do you compare with similar facilities?
- Incentives for retrofits and equipment replacement, Commissioning, etc.
- Training



Examples of programs

Assessments –

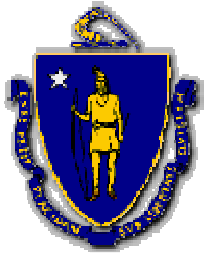
- Technical studies for whole facilities and specific equipment/processes. Offerings vary by utility.
- Online tools for energy assessment.
- Design assistance for new construction/major rehabilitation



Examples of programs

Incentives

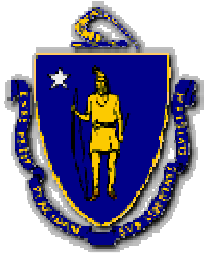
- Prescriptive lighting –changing T12 to super T8's. Large C/I Retrofit. Incentives avg 40%
- Cool Choice – unitary HVAC system purchases, Incentives up to 75%
- Small C/I retrofit – lighting, other measures for small customers, incentives up to 80%



Training

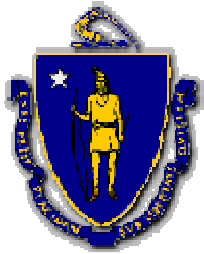
Training –

- Building Operator Certification
 - level 1 – building system maintenance
 - Level 2 – equipment troubleshooting & maintenance
 - Programs consist of 60 hours training over 3-4 months.
 - Scholarship \$300/participant provided
 - Training by Northeast Energy Efficiency Partnerships



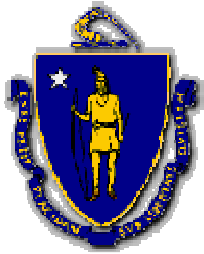
Custom Services

Custom programs provide combinations of measures to improve overall facility performance. Typically include lighting, HVAC, processes, compressed air, etc. Incentives calculated on project basis and vary by utility.



Questions?





Contact

- Mike Sherman
- Energy Efficiency Group Manager
- MA Division of Energy Resources
- 617-727-4732 x 40187
- mike.sherman@state.ma.us
- Mass.gov/DOER